THERE IS CLAIMED:

1. A monitor enabled amplifier, comprising:
two bypass devices;
a CATV amplifier coupled between the two bypass devices;
a cellular amplifier coupled between the two bypass devices;
each of the bypass devices passing CATV signals to the CATV amplifier and frequency shifted cellular signals to the cellular amplifier; and
a monitor receiving the frequency shifted cellular signals from one of the bypass devices.

2. The monitor enabled amplifier as set forth in claim 1, wherein the monitor includes:
a frequency converter receiving the frequency shifted cellular signals and outputting cellular signals at unshifted frequencies; and
a cellular interface (cell I/F) communicating cellular signals at unshifted frequencies with the frequency converter.

3. The monitor enabled amplifier as set forth in claim 2, wherein the cell I/F includes a standard wireless phone chip.

4. The monitor enabled amplifier as set forth in claim 2, wherein the cell I/F is a twin mode cell I/F.

5. The monitor enabled amplifier as set forth in claim 4, wherein the twin mode cell I/F includes means for receiving uplink communications.

6. The monitor enabled amplifier as set forth in claim 2, further comprising a sensor connected to the cell I/F.

7. A method of operation for a monitor enabled amplifier (MEA) in a CATV network, comprising:
receiving a frequency shifted cellular signal through a CATV network;
converting the frequency shifted cellular signal to a cellular signal at an unshifted frequency;
automatically responding to the cellular signal.

8. The method of operation for an MEA as set forth in claim 7, further comprising:
making a reporting determination based on the timing of a previous communication; and
when the reporting determination is in the affirmative, reporting by originating a cellular call signal.

9. The method of operation for an MEA as set forth in claim 8, wherein the reporting includes sending a report having one or more of:
timestamp information;
signal strength information; and
status information based on the detection of a received value reaching a predetermined threshold.

10. The method of operation for an MEA as set forth in claim 8, further comprising receiving the received value from a sensor.

11. The method of operation for an MEA as set forth in claim 8, further comprising receiving the received value from another processor.

12. The method of operation for an MEA as set forth in claim 7, wherein the converting of the frequency shifted cellular signal to a cellular signal at an unshifted frequency is performed for only downlink communications.

13. The method of operation for an MEA as set forth in claim 7, wherein the converting of the frequency shifted cellular signal to a cellular signal at an unshifted frequency is performed for downlink communications and also for uplink communications from mobile terminals.

14. The method of operation for an MEA as set forth in claim 13, wherein automatically responding to the cellular call signal comprises:

making a detection of cellular call traffic of a mobile terminal; and

reporting the detection.

15. The method of operation for an MEA as set forth in claim 14, wherein the reporting includes providing a timestamp.

16. The method of operation for an MEA as set forth in claim 14, wherein the reporting includes providing an originating station indicator (OSI) pertaining to the mobile terminal.

17. A monitor enabled cable mount cellular antenna (MEC), comprising:

an antenna unit,

a frequency converter, and

a cellular interface (cell I/F);

wherein the frequency converter communicates unshifted cellular signals with the antenna unit and the cell I/F.

18. The MEC as set forth in claim 17, wherein the cell I/F includes:

a processor, and

a receiver/transmitter (RT) unit under control of the processor.

19. The MEC as set forth in claim 17, wherein the frequency converter is adapted to convert cellular signals between an unshifted format and a frequency shifted format

20. The MEC as set forth in claim 17, wherein the processor and RT unit are part of a standard wireless phone chip.

21. The MEC as set forth in claim 17, wherein the cell I/F is a twin mode cell I/F.

22. The MEC as set forth in claim 19, wherein the twin mode cell I/F includes means for receiving uplink communications.

23. The MEC as set forth in claim 17, further comprising a sensor connected to the cell I/F.

24. A method of operation for a monitor enabled cable mount cellular antenna (MEC) in a CATV network, comprising:

receiving a frequency shifted cellular signal through a CATV network;

converting the frequency shifted cellular signal to a cellular signal at an unshifted frequency;

automatically responding to the cellular signal.

25. The method of operation for an MEC as set forth in claim 24, further comprising:
making a reporting determination based on the timing of a previous communication; and
when the reporting determination is in the affirmative, reporting by originating a cellular call signal.

26. The method of operation for an MEC as set forth in claim 25, wherein the reporting includes sending a report having one or more of:
timestamp information;
signal strength information; and
status information based on the detection of a received value reaching a predetermined threshold.

27. The method of operation for an MEC as set forth in claim 25, further comprising receiving the received value from a sensor.

28. The method of operation for an MEC as set forth in claim 25, further comprising receiving the received value from another processor.

29. The method of operation for an MEC as set forth in claim 24, wherein the converting of the frequency shifted cellular signal to a cellular signal at an unshifted frequency is performed for only downlink communications.

30. The method of operation for an MEC as set forth in claim 24, further comprising:
receiving, from an antenna unit, an uplink cellular signal at an unshifted frequency;
automatically responding to the uplink cellular signal.

31. The method of operation for an MEC as set forth in claim 30, wherein the automatically responding to the uplink cellular signal comprises:
making a detection of cellular call traffic of a mobile terminal; and
reporting the detection by placing a cellular call.

32. The method of operation for an MEC as set forth in claim 31, wherein the reporting includes providing a timestamp.

33. The method of operation for an MEC as set forth in claim 31, wherein the reporting includes providing an originating station indicator (OSI) pertaining to the mobile terminal.

34. The method of operation for an MEC as set forth in claim 31, wherein the reporting includes:
determining an originating station indicator (OSI) pertaining to the mobile terminal;
making a comparison between the OSI and one or more authorized station identifiers (ASI);
determining the value of an ASI indicator based on the comparison.

35. A method of cellular communications, comprising:
communicating a cellular signal between a mobile terminal and a base transceiver station via an indoor antenna and a CATV network;

converting the frequency of the cellular signal to a shifted frequency when the cellular signal is in the CATV network;

bypassing the frequency shifted cellular signal around active components of the CATV network;

amplifying the frequency shifted cellular signal using cellular amplifiers; and

converting the frequency shifted cellular signal back to an unshifted frequency when the cellular signal leaves the CATV network for the base transceiver station or the mobile terminal; and

providing a monitor, comprising a frequency converter and a cellular interface (cell I/F) capable of placing a cellular call, at one or more of:

one of the amplifiers, and

the indoor antenna.

36. The method of cellular communications as set forth in claim 35, wherein the monitor performs the operations of:

receiving a frequency shifted cellular downlink signal through the CATV network;

converting the frequency shifted cellular signal to a cellular signal at an unshifted frequency;

automatically responding to the cellular signal.

37. The method of cellular communications as set forth in claim 36, further comprising:

making a reporting determination, at the monitor, based on the timing of a previous communication; and

when the reporting determination is in the affirmative, reporting by originating a cellular call signal from the monitor.

38. The method of cellular communications as set forth in claim 37, wherein the reporting includes sending a report having one or more of:

timestamp information;

signal strength information; and

status information based on the detection of a received value reaching a predetermined threshold.

39. The method of cellular communications as set forth in claim 37, further comprising receiving the received value from a sensor.

40. The method of cellular mutations as set forth in claim 37, further comprising receiving the received value from another processor.

41. The method of cellular communications as set forth in claim 37, further comprising:

receiving, at the monitor, an uplink cellular signal; and

automatically responding to the uplink cellular signal.

42. The method of cellular communications as set forth in claim 41, wherein the automatically responding to the uplink cellular signal comprises:

making a detection of cellular call traffic of a mobile terminal; and

reporting the detection by placing a cellular call.

43. The method of cellular communications as set forth in claim 42, wherein the reporting includes providing correlation information.

44. The method of cellular communications as set forth in claim 42, wherein the reporting includes providing an originating station indicator (OSI) pertaining to the mobile terminal.

45. The method of cellular communications as set forth in claim 42, further comprising:
determining an originating station indicator (OSI) pertaining to the mobile terminal;
making a comparison between the OSI and one or more authorized station identifiers (ASI) corresponding to the monitor;
determining the value of an ASI indicator based on the comparison.

46. The method of cellular communications as set forth in claim 45, further comprising storing the value of the ASI indicator in a call record.

47. The method of cellular communications as set forth in claim 46, further comprising determining a charge for a call to which the call record pertains based on the value of the ASI indicator.

48. The method of cellular communications as set forth in claim 47, wherein the charge, when the value of the ASI indicator indicates a match between the OSI and ASI, is less than the charge when the value of the ASI indicator indicates no match.

49. The method of cellular communications as set forth in claim 47, wherein the charge, when the value of the OSI indicates a cellular network subscriber is less than the charge when the value of the OSI indicates a non-subscriber cellular user.

50. The method of cellular communications as set forth in claim 42, wherein, when the cellular call traffic of the mobile terminal is a call to an emergency response service, geographic location information relating to the location of the mobile terminal is determined based on the location of the monitor sending the detection report.

51. A cellular communications system with a hierarchical cell structure comprising:
macrocells corresponding to cellular towers and having corresponding outdoor service areas;
microcells corresponding to outdoor areas smaller than the outdoor service areas of the macrocells;
picocells corresponding having indoor service areas corresponding to buildings; and
femtocells corresponding to monitor enabled cable mount cellular antennas (MECs) and having corresponding indoor service areas smaller than the indoor service areas of the picocells.

52. The cellular communications system as set forth in claim 51, further comprising a CATV network communicating a cellular signal between a mobile terminal and a base transceiver station via one of the MECs.

53. The cellular communications system as set forth in claim 52, wherein the frequency of the cellular signal is converted to a frequency shifted cellular signal when the cellular signal is in the CATV network.

54. The cellular communications system as set forth in claim 53, further comprising, at active components of the CATV network, a respective cellular bypass, wherein the cellular bypass bypasses the frequency shifted cellular signal around the active component.

55. The cellular communications system as set forth in claim 54, wherein the cellular bypass includes and amplifier amplifying the frequency shifted cellular signal.

56. The cellular communications system as set forth in claim 55, wherein the MEC further comprises:

a frequency converter converting between the cellular signals and the frequency shifted cellular signals, and

a cellular interface (cell I/F) capable of placing a cellular call by communicating cellular signals, connected to the frequency converter.

57. The cellular communications system as set forth in claim 55, further comprising a monitor having a frequency converter and a cellular interface (cell I/F) capable of placing a cellular call, at the cellular bypass, the frequency converter communicating cellular signals at unshifted frequencies with the cell I/F, and communicating frequency shifted cellular signals with the CATV network.

58. The cellular communications system as set forth in claim 51, further comprising:

a first base transceiver system (BTS) supporting communications for one of said macrocells; and

a second BTS, supporting communications for one of said femtocells located geographically in said one of said macrocells;

wherein, when a mobile terminal receives a signal from the first BTS at a first signal strength, and receives a second signal from the second BTS at a second signal strength, the cellular communications system forces the mobile terminal to communicate via the second BTS when the second signal strength exceeds a predetermined threshold, even when the first signal strength exceeds the second signal strength.

59. A computer supported method for determining a charge for a cellular call, comprising:

making a correspondence determination as to whether an originating station identifier (OSI) of a mobile terminal originating the cellular call corresponds to any of a set of one or more authorized station identifiers (ASI) associated with a particular cellular antenna through which the cellular call was communicated;

when the correspondence determination indicates a match, calculating the charge at a first charge rate; and

when the correspondence determination indicates no match, calculating the charge at a charge rate higher than the first charge rate.

60. The computer supported method for determining a charge for a cellular call as set forth in claim 59, wherein the correspondence determination is based on an ASI indicator included in a call record relating to the cellular call.

61. The computer supported method for determining a charge for a cellular call as set forth in claim 59, further comprising:

when the correspondence determination indicates no match, whether the OSI indicates a cellular network subscriber or a non-subscriber cellular user;

when the OSI indicates a cellular network subscriber, calculating the charge at a second charge rate higher than the first charge rate; and

when the OSI indicates a non-subscriber cellular user, calculating the charge at a third charge rate higher than the second charge rate.

62. A method for identifying the location of a cellular caller, comprising:
detecting the origination of a call, by the cellular caller, at a monitor enabled cable mount cellular antenna (MEC);
automatically placing a call from a monitor of the MEC in response to the detecting of the call;
making a correlation between the call of the cellular caller and the call from the monitor; and
identifying the location of the cellular caller as the location of the MEC.

63. The method for identifying the location of a cellular caller as set forth in claim 62, further comprising:
sending, from the monitor to a network control center, correlation information; and
at the network control center, using the correlation information to make the correlation.

64. The method for identifying the location of a cellular caller as set forth in claim 63, wherein the correlation information comprises a timestamp relating to the time the call from the cellular caller was detected at the monitor.

65. The method for identifying the location of a cellular caller as set forth in claim 63, wherein the correlation information comprises an originating station identifier (OSI) corresponding to the cellular caller.